Mah Ebrahimi

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Education

Ph.D., International Economics & Finance February 2026 (Expected)
Brandeis University, School of Business and Economics, Waltham, MA
Dissertation: *"Essays on DARPA's Role in Financing Innovation"*
Finance Courses:

- Ph.D. Seminar: Behavioral Finance (University of Miami) — ECON2726: Theoretical and Empirical Perspectives on Entrepreneurship (Harvard University) — MF891: Doctoral Seminar in Corporate Finance (Boston College)
- FIN240A: Venture Capital and Entrepreneurial Finance — FIN306F: Topics in Corporate Finance — FIN270A: Options and Derivatives — FIN305F: Asset Pricing (Brandeis University)

M.S., International Economics & Finance 2021
Brandeis University School of Business and Economics, Waltham, MA

MBA in Finance 2016
Northeastern University, D'Amore-McKim School of Business, Boston, MA

B.S., Materials Science & Engineering
Iran University of Science and Technology, Tehran, Iran

Research Interests

Corporate Finance, Entrepreneurial Finance, Innovation, Fintech, M&A, IPO.

Working Papers

- **DARPA's Role in Financing Innovation: Do Program Managers Have Private Information?**, Job Market Paper.
- **DARPA's Role in Financing Innovation: A Descriptive Analysis of Funding Allocations and Outcomes**, with Aldo Musacchio and Debarshi Nandy.
- **A New Dataset on DARPA's Role in Financing Innovation**, with Aldo Musacchio and Debarshi Nandy.
- **Does Having Student Debt Hurt Households' Ability to Withstand Recessions?**, with Karthik Krishnan and Pinshu Wang.

Publications

- **Trading Opportunities around Morningstar Stock Rating Changes**, with Paul J. Bolster and Emery A. Trahan, *The Journal of Investing*, December 2022.

Conference Presentations

Who Gets DARPA Funding? selected for presentation at the 2nd International Conference on the Science of Science and Innovation (ICSSI), Jun 2023.

Teaching Experience

Adjunct Professor/Lecturer at Brandeis University

- Intermediate Macroeconomics (ECON 82b) Summer 2021 & Summer 2022
- Financial Management (FIN-203A), MBA Course Spring 2023

Teaching Assistant at Brandeis University

- Corporate Finance II, *EMBA for Physicians* (223HS-441A-1) Spring 2023
- Venture Capital and Entrepreneurial Finance (FIN-240A) Fall 2020 & Fall 2021 & Fall 2022
- Mergers and Acquisitions Analysis (FIN-232A) Spring 2022
- Financial Management (FIN-203A) Spring 2022
- International Portfolio Management (FIN-263A) Spring 2021

Industry Experience

Ribbon Communications, Westford, MA Jun 2014 – Dec 2014 & Feb 2016 – Sep 2018
Financial Analyst

- Led strategic pricing initiatives by developing financial models, forecasting product performance, and analyzing discount and margin trends.
- Conducted competitive research and built financial/forecasting tools to assess the impact of new products and subscription services on existing product lines.
- Designed cost-of-ownership analysis tools to compare company solutions against competitors and support data-driven pricing strategy.

Harvard Pilgrim Healthcare, Quincy, MA Jan 2015 – Jun 2015
Business Analyst

- Analyzed healthcare datasets using SQL, Excel, and Teradata to generate reports, perform QA/acceptance testing, and identify compliance issues, contributing to $30K in cost savings.
- Managed cross-functional projects with MS Project and Rally by defining scope, maintaining documentation, and ensuring implementation of Medicare Advantage data systems.
- Collaborated with analysts, developers, and managers to create reporting guides that clarified new data elements and business rule impacts for external vendors.

Fellowships and Awards

- Rosenberg Institute of Global Finance Summer Research Award, 2020–2023
- AFA Ph.D. Student Travel Grant, American Finance Association, Jan 2023
- NSF I-Corps Fellowship Program, Summer 2019
- MBA Achiever's Scholarship, Northeastern University, 2013

Professional Certifications

- Bloomberg Essentials Certified in Equity, Fixed Income, Commodities, and FX, 2015
- Managing Business, Government, and Public Policy graduate residency course, The Washington Campus, Washington D.C., 2015

Skills

Programming and Statistical Tools: Stata, R, MATLAB, Python, SPSS, SQL, LaTeX
Databases: CRSP, Compustat, Refinitiv SDC Platinum (M&A, IPO, VC/PE deals), USPTO patents, ip.com (patent analytics), USAspending, Survey of Consumer Finances (SCF), Morningstar Direct, Penn World Table (PWT)
Research Platforms: Bloomberg Terminal, WRDS
Applications: MicroStrategy, Salesforce CRM, Qualtrics, MS Project, Rally (Agile), Visio, Excel (advanced modeling), Word, PowerPoint
Languages: English and Persian (fluent), French (intermediate), Arabic (intermediate)

Dissertation Committee / References

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Working Papers

1. **DARPA's Role in Financing Innovation: Do Program Managers Have Private Information?**, with Aldo Musacchio and Debarshi Nandy.
   Abstract: This paper provides an analysis of the Defense Advanced Research Projects Agency's (DARPA) innovation funding model, emphasizing the pivotal role of Program Managers (PMs) in shaping outcomes. DARPA's decentralized, high-risk, high-reward funding approach, combined with PM autonomy and expertise, is often credited as a model for fostering breakthrough technological advancements. Using a novel dataset spanning 2012–2019, we examine the mechanisms through which PMs allocate resources, test hypotheses surrounding private information, cherry-picking, and cronyism, and evaluate the resultant innovation impacts. Our findings reveal that PMs leverage both past performance and unique industry-specific knowledge gained through prior professional connections to select grantees capable of delivering superior innovation outcomes, as evidenced by increased patent filings, higher citation rates, and enhanced Department of Defense (DoD) contract awards. Contrary to concerns of cronyism, connected grantees outperform their peers, suggesting the informational advantage of PMs outweighs any potential bias. However, the concentration of funding among a few large grantees raises questions about the inclusivity of DARPA's model in supporting smaller, nascent innovators. Still, our results underscore the importance of expertise-driven decision-making in navigating uncertainty and driving technological progress, while also advocating for strategies to balance support for established leaders and emerging disruptors in the innovation ecosystem.

2. **DARPA's Role in Financing Innovation: A Descriptive Analysis of Funding Allocations and Outcomes**, with Aldo Musacchio and Debarshi Nandy.
   Abstract: This paper provides the first systematic descriptive analysis of the Defense Advanced Research Projects Agency's (DARPA) funding allocations and innovation outcomes using newly assembled project–grantee–year data covering 2012–2019. We link FOIA-obtained DARPA disbursements to grantee characteristics, program classifications, program manager (PM) biographies, USPTO patent outcomes, and Department of Defense follow-on contracts. Our analysis addresses four central questions raised in the literature on public R&D: (i) whether different program types (basic, applied, advanced technology development) receive systematically different levels of funding; (ii) whether DARPA's portfolio is concentrated among a small set of large grantees; (iii) whether lobbying intensity and political cycles shape allocations; and (iv) whether DARPA directs resources toward industries experiencing high growth, and with what outcomes. We further examine heterogeneity by grantee type (private, public, university) and PM background (industry, academia, military). The results highlight DARPA's dual strategy of seeding entry by private firms while maintaining strong ties with established incumbents, and reveal systematic differences in continuation, concentration, and innovation outputs across grantee and allocator types. Beyond describing DARPA's funding landscape, our findings establish a foundation for causal analysis of the DARPA's funding mechanisms.

3. **A New Dataset on DARPA's Role in Financing Innovation**, with Aldo Musacchio and Debarshi Nandy.
   Abstract: We introduce a new panel dataset of the Defense Advanced Research Projects Agency (DARPA), covering 2012–2019. Built from FOIA-obtained disbursement records, USAspending data, USPTO patent filings, and hand-collected PM biographies, the dataset links DARPA projects to innovation and adoption outcomes at project–grantee–program manager

(PM)–year granularity. Our contributions are threefold. First, we connect DARPA awards to project-relevant patents and citations using a NAICS–CPC crosswalk, enabling field-specific measures of technological impact. Second, we compile biographical profiles of DARPA PMs, allowing analysis of how allocator discretion and prior experience shape funding outcomes. Third, we match DARPA-funded projects to follow-on Department of Defense contracts, tracing diffusion from R&D to procurement. By providing DARPA-specific microdata that complement broad resources such as NIH grant–publication datasets and the Government Patent Register. This dataset offers a foundation for studying informational asymmetries, favoritism, and efficiency in public R&D allocation.

4. **Does Having Student Debt Hurt Households' Ability to Withstand Recessions?**, with Karthik Krishnan and Pinshu Wang.
   Abstract: We assess the relationship between the level of educational debt and ability of households to withstand the negative impact of recessions that happen around the time they graduate from college. Households with higher student debt where household head experiences a recession shortly after graduation from college have lower family income and spend a shorter amount of time being employed in full time jobs. These effects are the strongest during the early part of one's career, but weaken (in aggregate) after that. Our study indicates that policymakers and academics trying to understand the impact of recessions on economic outcomes may have to consider the impact of student loans.

Published Papers

1. **Trading Opportunities around Morningstar Stock Rating Changes,** with Emery Trahan and Paul Bolster, *The Journal of Investing*, December 2022.
   Abstract: We study the nature and impact of ratings changes for individual stocks provided to investors by Morningstar, Inc. Morningstar's recommendations follow negative momentum for upgrades and positive momentum for downgrades. When ratings change, upgraded stocks experience positive abnormal returns, while downgraded stocks experience negative abnormal returns. Morningstar recommendations not only impact stock prices at announcement, but statistically significant abnormal returns occur over the following 30 trading days. Additional variables tracked by Morningstar, such as economic moat and uncertainty, explain variation in abnormal returns associated with ratings change announcements. Overall, the results suggest that Morningstar analysts provide valuable information to investors.